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TCS No. 889184-75USIB-D- 46.2/37
18 March 1975

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SOC CONTROL

UNITED STATES INTELLIGENCE BOARD

MEMORANDUM FOR USIB PRINCIPALS

SUBJECT : Civil Agencies' Requirements for KH-9
Satellite Coverage of the U. S.

- REFERENCES:
- a. USIB-D-46.2/18 (COMIREX-D-15.8/8),
9 September 1971, Limited Distribution;
USIB-D-46.4/50 (COMIREX-D-15.2/23),
11 August 1972, Limited Distribution
 - b. USIB-D-46.2/27, 20 September 1973,
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1. The DCI has reviewed and approved in principle the attached (Tab A) draft affirmative reply by Chairman, COMIREX, to a statement of civil agencies' requirements for KH-9 satellite coverage of the U. S.

2. In September 1974 four civil agencies forwarded to Chairman, COMIREX, a joint statement (Tab B) of their projected combined needs for KH-9 satellite coverage of the U. S. and a request for formal assurances that sufficient source materials will continue to be made available in the future to accomplish their civil applications programs. The draft reply draws upon preliminary data provided by the NRO and addresses the specific recommendations advanced by the civil agencies.

3. Paragraph 6 of the proposed reply is written to communicate specific guidance from the DCI to the joint addressees in three policy areas:

- COMMENTS
1. PREVIOUS SUGGESTION OF A CIVIL PANEL PROPOSED, SHOULD BE STRONGLY URGED TO REAFFIRM THE REQUIREMENTS.
 2. A CONTINUING EFFORT AT RESTON TO ASSURE THAT THE SOURCE IS OBSERVED SHOULD BE CONTINUED.
 3. SOURCE DOCUMENTATION SHOULD BE CONSIDERED AS SENSITIVE AND NOT SUBJECTED AS A MATTER OF COURSE FOR COURT SUBSTANTIATION.
 4. WE HAVE INDICATIONS THAT THE SENATE SPACE COMMITTEE IS AWARE OF THIS.

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Exempt from general
declassification schedule of E.O. 11652
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a. That the Intelligence Community will not be involved in decisions concerning civil user's needs or priorities;

b. That civil applications are incidental to the foreign intelligence collection effort, and;

c. That the decision to support the civil applications is based on economy of effort at the national level within statutory limitations with respect to domestic affairs and his responsibilities for protection of intelligence sources and methods.

The final paragraph of the proposed reply (paragraph 7) identifies the DCI's support for consolidation and strict prioritization of the civil agencies' requirements.

4. Mr. Inlow advises that an affirmative reply to the joint agencies as proposed in Tab A draft will formally commit the Intelligence Community to continue support to civil applications at a low level of effort as a by-product of the foreign intelligence collection. The jointly submitted statement of requirements by the civil agencies (Tab B) and the proposed response will supersede the USGS requirements of record previously endorsed by the Board (reference a.).

5. An affirmative decision on the joint agencies' request is consistent with past practices and policies endorsed by the USIB and with the basic findings of the earlier ARGO study activity and the subsequent Federal Mapping Task Force review (reference b.). In addition to consultation with the USIB, the DCI intends to advise PFIAB, NSC, and OMB of the proposed action. He will also have it reviewed with appropriate Members of the Congress before final action is taken.

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6. It is planned to schedule the attached draft reply and related actions on an agenda for Board discussion at an early date, probably 27 March 1975.


BRUCE A. LOWE
Executive Secretary

Attachment

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MEMORANDUM FOR: John R. McGuire
Chief, Forest Service, USDA

Robert M. White
Administrator, National Oceanic and
Atmospheric Administration
Department of Commerce

W. C. Gribble, Jr.
Lieutenant General, USA, Chief of Engineers
Department of the Army

V. E. McKelvey
Director, U. S. Geological Survey
Department of the Interior

SUBJECT : Civil Requirements for Satellite Imagery

REFERENCE : Joint Memorandum to Chairman, COMIREX,
16 September 1974, TCS-864114-74

1. This memorandum replies to your request (reference) outlining joint requirements for satellite imagery to support programs in the Departments of Agriculture, Army (Civil Works), Commerce, and Interior. This reply has been reviewed by the Director of Central Intelligence, in consultation with the USIB, and he has approved continuing support to your programs as outlined herein. Your need to have a firm understanding of the commitment which can be made to these requirements is fully appreciated.

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2. As you know, the intelligence community engages in continuing evaluation of the satellite imagery program in relation to projected intelligence needs, the technology and capability of various satellite imagery systems, and the related costs and schedules involved. The objective is to ensure that the satellite imagery essential to the national security is provided, but at the minimum cost possible. As you are probably also aware, the launch rates of the present systems have been reduced and their on-orbit life stretched out to effect economies. Despite the consequent reduction in total capacity and flexibility, it appears that it is in the broad national interest and of economic benefit to continue allocating a small percentage of film for the civil applications which you have identified, and that effort will be supported.

3. Your identified requirements will be handled on the basis of a level of effort -- equivalent to about two to three percent of current film -- which appears reasonable to support as a cost effective contribution to federal operations. As discussed below, sufficient collection resources are not available to meet all of the needs which you identified without unacceptable impact on the projected foreign intelligence collection program. It appears, however, that the feasible level of support will contribute significantly to the satisfaction of your requirements. For your planning purposes, the projections below are keyed to your four Recommendations (reference).

a. Recommendation 1: Based on a preliminary NRO evaluation it does not appear feasible to complete "once-over" coverage of the US with KH-9 panoramic photography by the end of FY 75 (Mission 1210) as outlined in your first recommendation. About 70% of the US will have been covered satisfactorily at that time and the phasing of completion of the remainder will depend upon your view of the priority of this specific requirement relative to the second recommendation, below.

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b. Recommendation 2: It appears feasible to plan for a minimum acquisition of about 400,000 square nautical miles of KH-9 panoramic photo coverage per year against the identified requirements. This projection includes the previously approved collection requirements for the USGS. Within this increased level of effort you will need to determine and advise me on such aspects as the relative priority to be placed on completing the "once-over" KH-9 pan coverage (a. above) versus current needs for recoverage. Essentially unpredictable factors will determine whether an additional 200,000 square miles of KH-9 pan coverage per year can be provided to meet the full 600,000 square nautical mile requirement identified in your second recommendation. Included in the unpredictable factors are intra-mission efficiencies, the outcome of technical improvements still in process, and the applicability to your needs of other photography of the US which will be acquired during engineering tests and in response to Defense-related or other intelligence support needs.

c. Recommendation 3: The rate of collection over the US with the KH-9 mapping camera is governed by the requirements of the Defense Mapping Agency which are arranged on a world-wide basis and include the US. The feasibility of satisfying the requirements for mapping camera photography at the 400,000 square nautical mile per year rate identified in your third recommendation will be studied in conjunction with DMA.

d. Recommendation 4: The current experimental program of special films on the KH-9 panoramic camera system may provide some capability for collection color-infrared imagery of the US. However, the loads of special films that are being carried are quite limited and are

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planned on a mission-by-mission basis. It is uncertain at this time whether collection of any significant portion of the 50,000 nautical square mile requirement which you identify can be satisfied, particularly if there are specific constraints on the time of collection. I suggest that this requirement be reviewed on a continuing basis in connection with our mission planning.

4. Current projections call for the launch of two KH-9 satellites per year through FY 77, and one per year for FY 78, FY 79, and FY 80. Some performance improvements are anticipated for future vehicles, and the reduced launch rate in the later years is predicated on the presence of other capabilities which will reduce the overall intelligence need for KH-9 photography. For these reasons the reduction to one KH-9 mission per year will not necessarily reduce the availability of film allocable to your purposes. These relationships and the precise future launch rate for the KH-9 system are now under detailed study and are scheduled for further review in July and November 1975. If the reviews alter in any substantial way the projections in the foregoing subparagraphs I will advise you accordingly.

5. There are several additional factors which must be recognized in relation to these projections. Intelligence needs, themselves, are inherently difficult to predict because of the changing international situation. While our projections for satellite imagery make allowance for this fact, the emergence of a major unforeseen intelligence need could impact even the small allocation of film for civil requirements. Finally, there is always the possibility of a launch or on-orbit failure of one of the systems, which would obviously severely constrain collection capabilities against all requirements.

6. The Director of Central Intelligence has instructed me to convey several specific points on his behalf:

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a. He has asked that this reply note explicitly the understanding that in considering the civil applications the intelligence community will have no involvement in decisions concerning civil users' needs or priorities.

b. He wishes to emphasize the primary foreign intelligence and DoD mapping requirements focus of the classified imagery satellite program and the understanding that collection for civil applications will be incidental to the foreign intelligence collection effort.

c. He is sympathetic with efforts to find means to economize on national expenditures related to US mapping, survey, and similar civil applications, and he will therefore support these efforts within the statutory limitations placed on him with respect to involvement in domestic affairs and activities and his statutory responsibilities for the protection of intelligence sources and methods.

7. Because of the austere resource limitations which are being imposed upon intelligence collection, the DCI urges that your joint requirements be consolidated and arrayed in strictest priority order. He asks that you identify them to me on a consolidated basis, if possible, so that they may be included most effectively in the tasking for the satellite systems.

Roland S. Inlow
Chairman
Committee on Imagery Requirements and Exploitation

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Tab B
USIB-D-46.2/37
18 March 1975
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SEP 16 1974

Memorandum

To: Chairman, COMIREX

Through: Chairman, MC&G Working Group

Subject: Civil Requirements for Satellite Imagery

The enclosed justification for satellite imagery is forwarded for your review and consideration. It represents requirements for satellite imagery to support programs in the Departments of Agriculture, Army (Civil Works), Commerce, and Interior.

The involvement of civil agencies in the exploitation of satellite imagery includes extensive dedication of personnel, equipment, and physical space. In order to develop realistic programs utilizing the satellite technology, it is necessary to have a firm commitment by the USIB and COMIREX to insure that sufficient source materials will be available in the future for the accomplishment of these activities.

We look forward to a timely decision in favor of these civil requirements and supporting the continued use of these systems as a national asset.

John R. McGuire
John R. McGuire, Chief
Forest Service, USDA

John W. Townsend Jr
for Robert M. White
Administrator, National Oceanic
and Atmospheric Administration
Department of Commerce

W. C. Gribble, Jr.
for W. C. Gribble, Jr.
Lieutenant General, USA
Chief of Engineers
Department of the Army

D. A. RAYMOND
Major General, USA
Deputy Chief of Engineers
Enclosure

V. E. McKelvey
for V. E. McKelvey
Director
U. S. Geological Survey
Department of the Interior

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Civilian Requirements for Satellite Imagery

Background

In 1969, the USIB approved a program for the collection and utilization of TALENT-KEYHOLE photography in the United States in support of the National Topographic Map Series. The authenticated program provided for an annual USGS requirement of 300,000 nautical square miles of panoramic photography in the conterminous U. S. In 1971 this program was updated for the KH-9 system, and the USIB approved the extension of the requirement area to include all of the United States and its outlying areas (e.g., Puerto Rico). In 1972, a total requirement of 1.6 million nautical square miles of the KH-9 Mapping-Camera-System (MCS) coverage in the U. S. and 0.4 million nautical square miles in Antarctica was approved for collection to satisfy metric requirements.

In 1972-73, the Office of Management and Budget (OMB) conducted a study of civilian mapping, charting, and geodesy (MC&G) requirements, operations, products, and methods. A summary of the investigation, conclusions, and recommendations was published by OMB in July 1973 under the title, "Report of the Federal Mapping Task Force on Mapping, Charting, Geodesy and Surveying." Two of the recommendations made in this report were:

- o "The once-over coverage of the United States with suitable cloud-free photographs by the reconnaissance satellite system be endorsed as a national domestic requirement, to be completed within 1 year." (There has been some confusion on the interpretation of this recommendation. It was intended to indicate a requirement to complete the once-over coverage of the U. S. with KH-9 panoramic photography. In other words, the requirement was to obtain photography of the areas in the U. S. that had not been covered by missions 1201 through 1205.)
- o "Recoverage be provided to an extent of 750,000 square statute miles, unique, 90 percent cloud-free, per year. Such an allocation is to be considered separate from and without any impingement on the military MC&G requirement."

If these recommendations are approved and the collection of imagery is accomplished, there will be a significant expansion of civilian exploitation of satellite imagery. At the present time, there are several Departments conducting pilot studies in the Reston facility that are directly or indirectly associated with MC&G activities. Some of the agencies in these Departments have already indicated a commitment to utilize these source materials in their programs. This has been accomplished with a certain amount of risk involved since the above stated requirements have not been approved by the USIB and imagery has not been available for many of their programs.

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Collection Status--KH-9 Panoramic Photography and KH-9 Mapping Camera System

The collection status of KH-4 and KH-9 photography for civil requirement areas is given in table I for fiscal years 1972-75. The collection of panoramic photography in FY 74 and the first mission (1208) in FY 75 indicates a continuing trend of underachieving the program objective. This same trend is apparent in the collection of frame photography from the Mapping Camera System. In the first four missions with MCS capability, only 127,180 nautical square miles of coverage have been accomplished against civil requirements. It is evident that these requirements have received only token attention.

Additional Civil Requirements

It is apparent that the spiraling increase in concern for our environment has brought on a commensurate increase in public demand for more efficient management of our resources and the environment by government agencies. The energy shortage, depletion of natural resources (renewable and non-renewable), deterioration and pollution of the environment, and the current status of the national economy are examples of some of the problem areas that have been responsible for major program changes in many agencies, and, in some instances, have led to the creation of new agencies (e.g., the Environmental Protection Agency). The excellent potential of satellite imagery as a timely and efficient source for the classification and detection of change in the physical environment should be heavily weighted in the development of national requirements. The satellite systems are excellent management tools as they provide an efficient means of monitoring the vast area of the U. S. on a timely basis.

Although all of the investigations have not been completed and the total number and kinds of applications and user agencies have not been identified, agencies in the Departments of Agriculture, Army (Civil Works), Commerce, and Interior have been able to identify current and potential requirements for high-resolution satellite imagery. A tabular summary of the annual and total requirements known today is presented in table II. A summary of the ongoing programs and involvement of the four Departments presently seeking to utilize the TALENT-KEYHOLE materials follows.

1. Department of Agriculture. The Forest Service has been conducting pilot studies in the USGS classified facility since 1972. As a result of these investigations, the Forest Service has identified several programs that have been proposed for implementation with the support of satellite imagery (see table III). Two of the major programs are:

- o National Forest Inventory. The Forest Service has adopted a multilayer mapping system that is based on the 10,700 USGS 1:24,000-scale quadrangles that cover the National Forests. The basic quadrangle will be supplemented by resource

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"overlays" that include timber classification, slope information, soil classification, mineral activities, communication information, administrative sites, etc. This data base can be derived from the KH-9 system and can be stored in graphical and/or digital formats. In addition, once the data base has been established, it will be possible to revise the data base and maintain the currency of the information by utilizing periodic recoverage of satellite imagery.

- o Monitor Disturbances on Forest Lands. In addition to the activities in connection with National Forests, the Forest Service is also responsible for maintaining an inventory of forest resources (area, location, timber types, and volume) on a nationwide basis. The inventory cycle is 5-10 years and is determined by the rate of change in the area. It is estimated that 5 percent of all forested lands are affected by natural and/or man-caused disturbances annually. Based upon the large area of the U. S. (approx. 750,000 n. sq. mi.) that is monitored, the KH-9 system provides a unique and efficient source to accomplish this mission.

The Soil Conservation Service, Statistical Reporting Service, and the Agricultural Stabilization and Conservation Service are also conducting investigations in the use of satellite imagery to support their programs. In summary, the Department of Agriculture has demonstrated a use for the imagery from the KH-9 system. The results from the classified studies indicate that the KH-8 system is also an efficient source for resource evaluation. And finally, the usefulness of both systems would be greatly enhanced by the addition of the color infrared sensor.

2. Department of the Army, Corps of Engineers (Civil Works). The Corps of Engineers (Civil Works) is responsible for the accomplishment of many domestic programs that can be supported by satellite imagery. KH-9 material has been used to develop geologic analyses for proposed water resource projects, to investigate sites to determine their potential for pumped-storage power facilities, and to do base-line environmental mapping for regional water resource studies. It is anticipated that KH-8 and KH-9 material can also be used to locate and monitor coastal and river-bank erosion problems, monitor Federal lands to limit encroachments, and to assess flood hazards and damages (see table IV). It is currently estimated that the annual requirement for imagery to support these programs is 250,000 nautical square miles. Most of this requirement can be adequately satisfied by the imagery obtained from the KH-8 and KH-9 systems.

3. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA). The National Ocean Survey (NOS), NOAA, has the assigned mission to produce and maintain navigational charts (aeronautical and nautical) for the U. S. and surrounding coastal waters. The program requirements are to

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revise the aeronautical charts twice a year and the nautical charts at indefinite intervals that are based on the amount of change in terrain and cultural features. Timely acquisition of panoramic photography is essential to these programs to insure the immediate application of changes vital for safe navigation. Imagery from the KH-9 Mapping Camera System is also required to provide a unique capability to derive a unified system of map control points to support the charting requirements. In addition to the charting activities, NOAA is active in a wide variety of programs that utilize photographic imagery as a source material. These include such areas as damage assessment after coastal flooding, ice movement in the Great Lakes, and the location of coastal fish populations. A list of products and the requirements for imagery characteristics are given in table V.

4. Department of the Interior. The Geological Survey has been utilizing the materials from the satellite system in support of the National Mapping Program since 1969. Along with the mapping program, the Survey has instituted other activities that include a Land Use and Data Analysis (LUDA) program, environmental studies, and the classification and inventory of natural resources.

In addition to these programs, the Bureau of Land Management and the Bureau of Indian Affairs have also initiated activities in the classified facility. These agencies are actively engaged in the administration and management of approximately 30 percent of the land area of the U. S. For these purposes, satellite imagery provides an excellent and economical management tool to classify and monitor the natural and man-created effects on the environment.

Imagery characteristics required to support programs of the Department of the Interior are given in table VI.

Recommendations

It is recommended that USIB approve:

1. The NRO collection of KH-9 panoramic photography to provide complete once-over coverage of the United States by the end of FY 75 (coverage by missions 1201-1210).
2. The NRO collect 600,000 nautical square miles of KH-9 panoramic photography annually beginning in FY 76.
3. The NRO collect all of the U. S. with KH-9 Mapping Camera photography at a rate of 400,000 nautical square miles annually.
4. The NRO collect 50,000 nautical square miles of color IR annually in the U. S. for civilian applications.

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It is important that the civilian community receive a timely response to these recommendations. If the recommendations are not approved and the collection cannot be accomplished, major program changes, fiscal allotments, physical construction, equipment procurement, and personnel assignments will have to be adjusted. Acknowledgment of a firm commitment to these requirements is necessary in order that the civilian agencies may progress into the codeword arena with total assurance that a viable program can be accomplished.

Enclosures
Tables I-VI

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TABLE I

Collection Status--KH-4 and KH-9 Photography

<u>Fiscal Year</u>	<u>Mission</u>	<u>Satisfied Requirements</u>	
		<u>Panoramic Photography</u> <u>(Nautical Square Miles)</u>	<u>Mapping Camera System</u> <u>(Nautical Square Miles)</u>
1972	1115	20,420	
	1116	94,621	
	1201	76,162	
	1202	74,246	
		<hr/> 265,449	
1973	1203	88,213	
	1204	18,479	
	1205	142,595	27,017
		<hr/> 249,287	<hr/> 27,017
1974	1206	55,095	6,376
	1207	130,835	66,538
		<hr/> 185,930	<hr/> 72,914
1975	1208	69,629 (Parts 1-4)	27,249
Annual Requirement		300,000	100,000
<u>Total Requirement</u>			
U. S.		2,800,000	1,600,000
Antarctica			432,000

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TABLE II

Civil Agencies' Coverage Requirements
(Nautical Square Miles)

	<u>KH-9 Panoramic</u>		<u>Mapping Camera System</u>	
	<u>Annual</u>	<u>Total</u>	<u>Annual</u>	<u>Total</u>
<u>Dept. of Agriculture</u>				
Forest Service				
National Forests	90,000	630,000	150,000	630,000
Private Lands	75,000	750,000		
<u>Dept. of Army</u>				
Corps of Engrs. (CW)	265,000	2,800,000		
<u>Dept. of Commerce</u>				
National Ocean & Atmospheric Admin.	400,000	2,800,000	200,000	1,000,000
<u>Dept. of Interior</u>				
Geological Survey	400,000	2,800,000	250,000	2,800,000
Bureau of Land Mgt.				
Public Lands	200,000	992,000	100,000	992,000
Cont. Shelf	60,000	600,000		
Net Annual Req't:	600,000		400,000	

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TABLE III

Department of Agriculture - Forest Service
Imagery Characteristics

<u>Product</u>	<u>Area</u> <u>(N. sq. mi.)</u>	<u>Sensor*</u>	<u>Minimum</u> <u>Resolution</u> <u>(Ft.)</u>	<u>Product</u> <u>Accuracy</u> <u>(Ft.)</u> <u>H/V</u>	<u>Currency</u>
<u>Forest Service Maps</u>					
Compilation	750-7,500	B&W	30	200/-	As needed
Maintenance	"	B&W	30	200/-	7 years
<u>Resource Interpretation</u>					
Timber Stand	750-7,500	Color IR Color B&W	7	100/-	10 years
Soils Inventory	"	Color B&W	10	100/-	25 years
Physical Inventories	"	B&W	7	100/-	7 years
Transportation	"	B&W	7	17/-	7 years
<u>Monitor Disturbances</u>					
Forest Survey	Large	Color IR B&W	7	17/-	8-10 years
Incentives Program	"	Color IR B&W	7	100/-	3 years
<u>Timber Inventory</u>	Large	Color IR B&W	7	100/-	-
<u>Engineering Surveys</u>	2-50	B&W	7	10/5	As needed
<u>Land-Use Mapping</u>	10,000	Color IR B&W	7	100/-	8-10 years

*Items listed in priority order.

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TABLE IV

Department of the Army - Corps of Engineers
Imagery Characteristics

Product	Area (N. sq. mi.)	Sensor*	Resolution (Ft.)	Product Accuracy (Ft.) H/V	Currency
Geologic Mapping	45	Color IR B&W Radar	10-40	-/-	One time
Hydrologic Mapping	45	Color IR B&W	10-40	-/-	One time
Environmental Base-Line Studies	Varied	Color IR B&W	10	-/-	2 years
Land-Use Studies	45	Color IR B&W	4-6	40/-	2 years
Disaster Assessment	--	Color IR B&W Radar	6	-/-	As required
Floodplain Mapping	2-45	Color IR B&W	6	40/5	3 years
Disaster Plan- ning & Relief	Varied	Color IR B&W	6	-/-	As required
Bank & Beach Erosion Surveillance	3-400	Color IR B&W	1-5	-/-	3 years
Inspection - Permit Regulations	Varied	Color IR B&W	6	-/-	90 days - 1 year
Master Planning Facilities	2-20	Color IR B&W	6	-/-	3 years

*Items listed in priority order.

CLASSIFIED
BY 178-1
EXEMPT FROM GENERAL DECLASSIFICATION
SCHEDULE OF EXECUTIVE ORDER 11652
EXEMPTION CATEGORY: EX (2)
AUTOMATICALLY DECLASSIFIED ON
IMPOSSIBLE TO DETERMINE

9
~~TOP SECRET~~

TCS No. 889184-75

~~TOP SECRET~~
HANDLE VIA
TALENT-KEYHOLE
CONTROL SYSTEM ONLY

TABLE V

Department of Commerce - NOAA
Imagery Characteristics

<u>Product</u>	<u>Area</u> (N. sq. mi.)	<u>Sensor*</u>	<u>Resolution</u> (Ft.)	<u>Product</u> <u>Accuracy</u> (Ft.) H/V	<u>Currency</u>
1:50,000 & Larger Harbor Chart (Nautical)	10-300	Color B&W	1	4-40/-	½-4 years
1:80,000 & Larger Small Craft Chart (Nautical)	50-500	Color B&W	1	15-60/-	½-4 years
1:50,000 - 1:100,000 Coast Charts (Nautical)	800-3,200	Color B&W	3-7	40-80/-	½-4 years
1:100,000 - 1:600,000 General Charts (Nautical)	3,000- 100,000	Color B&W	10-40	80+/-	1-5 years
1:500,000 Sectional Aero- nautical Charts (Aeronautical)	120,000	Color B&W	25	400/250*	½ year
1:250,000 Terminal Area Charts (Aero- nautical)	600	Color B&W	10	180/125	½ year
Coastal Flooding (Special Purpose)	-	Color IR B&W IR	1	-/-	-
Ice Movement (Special Purpose)	-	B&W IR B&W	10	-/-	-
Fish Population (Special Purpose)	-	Color Radar	1	-/-	-
T-Sheets (Hydro & Nautical Support) 1:10,000	50-80	Color-IR Color B&W	1	10/-	-

*Items listed in priority order.

CLASSIFIED
BY 129-1
EXEMPT FROM GENERAL DECLASSIFICATION
SCHEDULE OF EXECUTIVE ORDER 11652
EXEMPTION CATEGORY 1D (2)
AUTOMATICALLY DECLASSIFIED ON
UNLESS TO BE DETERMINED

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TCS No. 889184-75

~~TOP SECRET~~

~~TOP SECRET~~

HANDLE VIA
TALENT-KEYHOLE
CONTROL SYSTEM ONLY
TABLE VI

Department of the Interior - BIA, BLM and USGS
Imagery Characteristics

<u>Product</u>	<u>Area</u> <u>(N. sq. mi.)</u>	<u>Sensor*</u>	<u>Resolution</u> <u>(Ft.)</u>	<u>Product</u> <u>Accuracy</u> <u>(Ft.)</u> <u>H/V</u>	<u>Currency</u>
1:2,400-1:20,000 Planimetric Map	Up to 40	B&W	1-2	6-33/-	3-5 years
1:24,000 Topo- graphic Map (7½')	45	B&W	4-6	40/2½-20	3-10 years
1:62,500-1:63,360 Topographic Map (15')	180	B&W	4-6	105/2½-20	5-15 years
1:250,000 Topographic Map	4,500	B&W	20-40	418/25-100	3-15 years
1:250,000 Land-Use Map	4,500	B&W Color IR	4-6	418/-	3-15 years
1:500,000- 1:1,000,000 State Base, IMW	Large	B&W	20-40	-/-	8-15 years
All Scales Resource Studies	Varied	Color IR Color B&W	1-6	6-40/-	3-15 years
Disaster Survey	Varied	Color IR Color B&W	1-6	6-40/2½-∞	1-90 days

*Items listed in priority order.

CLASSIFIED
BY TUN-7
EXEMPT FROM GENERAL DECLASSIFICATION
SCHEDULE OF EXECUTIVE ORDER 11652
EXEMPTION CATEGORY: (2)
AUTOMATICALLY DECLASSIFIED ON:
IMPOSSIBLE TO DETERMINE

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~~TOP SECRET~~

TCS No. 889184-75